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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,666	12/31/2003	Jin Seo Park	11037-169-999	2237
24341	7590	11/18/2004	EXAMINER	
MORGAN, LEWIS & BOCKIUS, LLP. 2 PALO ALTO SQUARE 3000 EL CAMINO REAL PALO ALTO, CA 94306			LAU, TUNG S	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/750,666

Applicant(s)

PARK, JIN SEO

Examiner

Tung S Lau

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>See office action</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The IDS filed on 12-31-2003 has been accepted and signed by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Genderen (U.S. Patent 6,742,330).

Regarding claim 1:

Genderen discloses a method of predicting exhaust gas temperature at a catalytic converter inlet of an engine at a time of engine restart wherein the exhaust gas temperature at the catalytic converter inlet of the engine is predicted based on a stored exhaust gas temperature at the time of engine shut-off and an elapsed time between the engine shut-off and the engine restart (Col. 28, Lines 45-65).

Regarding claim 5:

Genderen discloses a method of predicting a steady state exhaust gas temperature at a catalytic converter inlet, comprising: determining a basic steady state exhaust gas temperature based on an intake air charge rate and engine rpm (Col. 5, Lines 18-32); determining a modified steady state exhaust gas temperature by modifying the basic steady state exhaust gas temperature, considering a plurality of variables representing an engine state (Col. 28, Lines 45-65); determining a base exhaust gas temperature at the catalytic converter inlet and an exhaust pipe temperature at the catalytic converter inlet based on the modified steady state exhaust gas temperature (Col. 28, Lines 45-65), considering a time delay; and determining an exhaust gas temperature at the catalytic converter inlet by summing predetermined weights of the base exhaust gas temperature at the catalytic converter inlet and the exhaust pipe temperature at the catalytic converter inlet (Col. 28, Lines 45-65).

Regarding claim 6, Genderen further discloses the variable is one of catalytic converter temperature (Col. 28, Lines 45-65); Regarding claim 7, Genderen further discloses determining a modified steady state exhaust gas temperature by modifying the basic steady state exhaust gas temperature, considering a plurality of variables representing the engine state, is achieved based on a plurality of predetermined look-up tables (Col. 4, Lines 52-67, Col. 7, Lines 12-27).

Claim Objections

3. Claims 2-4 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: prior art fail to teach:

Regarding claim 2:

$$EGT_CAT_ST = (EGT_CAT_OFF - INT) * K_1 + INT$$

wherein

EGT_CAT_ST is an initial exhaust gas temperature at the catalytic converter inlet when the engine is restarted;

EGT_CAT_OFF is the exhaust gas temperature at the catalytic converter inlet when the engine is previously turned off;

K₁ is a time factor determined according to an elapsed time; and

INT is an intake temperature when the engine is restarted.

Claims 3 and 4 are objected due to their dependency on claim 2.

Regarding claim 8:

$$EGT_CAT_BASE = TD_EG(K_2) * EGT_ST_MOD$$

$$MNFT_CAT = TD_MNF(K_3) * EGT_ST_MOD$$

wherein

EGT_CAT_BASE is the base exhaust gas temperature at the catalytic converter inlet;

MNFT_CAT is the exhaust pipe temperature at the catalytic converter inlet;

TD_EG is a first time delay function with respect to the exhaust gas temperature;

TD_MNF is a second time delay function with respect to the exhaust pipe temperature;

K₂ is a time constant of TD_EG;

K₃ is a time constant of TD_MNF; and

EGT_ST_MOD is the modified steady state exhaust gas temperature.

Claims 9 and 10 are objected due to their dependency on claim 8.

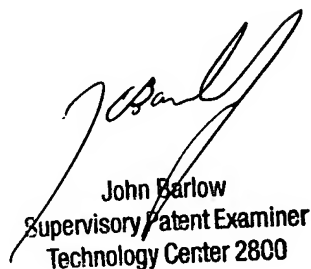
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9306

Art Unit: 2863

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL



John Barlow
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Technology Center 2800